



Total RNA, Total Performance

AGENCOURT® RNAPREP™

TOTAL RNA ISOLATION AND PURIFICATION FROM CULTURED CELLS

Agencourt RNAPrep is a SPRI®-based magnetic bead purification kit for the isolation and purification of total RNA from cultured eukaryotic cells. Agencourt RNAPrep is a consistent and automation-friendly method for utilization in downstream microarray and real-time PCR* gene expression analysis. This technique reliably delivers high recovery and purity without the need for filtration or centrifugation.

Key Features:

- Extraction and purification of high quality total RNA from cultured cells in 96-well and tube formats
- Efficient removal of genomic DNA and other contaminants
- No centrifugation or filtration required
- Supports automation and manual processing

High RNA Recovery

Agencourt RNAPrep consistently delivers superior recovery of total RNA. The purification routinely produced 1.5–3.0 times higher recoveries in comparison to competitor methods Qiagen and Promega from the same number of cells (Figure 1).

Quality Downstream Performance

Total RNA isolated with Agencourt RNAPrep is suitable for downstream applications such as qPCR, RT-PCR and microarray

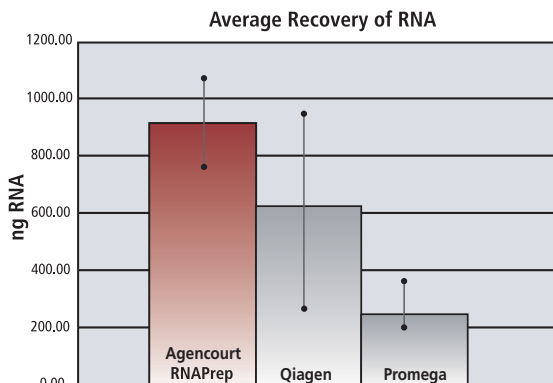


Figure 1. Total RNA from 1×10^5 293T cells was isolated with Agencourt RNAPrep and compared to Qiagen's RNeasy kit and Promega's MagneSil kit. Quantitation was performed by RiboGreen assay. Agencourt RNAPrep produced 1.5–3.0 times greater yield than competitors Qiagen and Promega.

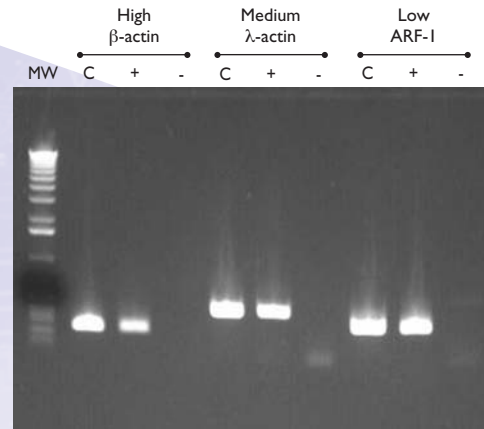


Figure 2. Transcripts for human beta-actin (>3,000 copies/cell), lambda-actin (300–3,000 copies/cell) and ARF-1 (~300 copies/cell) were amplified via reverse transcription-PCR from RNA isolated with Agencourt RNAPrep from 1×10^5 293T cells with (+) and without (-) reverse transcriptase (RT). C = commercially isolated RNA used as a control.

gene expression. RNA isolated with Agencourt RNAPrep from 1×10^5 293T cells was used as a template for reverse transcription-PCR of human genes of varying abundance levels (Figure 2). Both low and high abundance transcripts were easily detected due to the excellent recovery and purity of the Agencourt RNAPrep product.

Quality RNA Purification

Agencourt RNAPrep was compared against Qiagen and Promega kits for total RNA quality. Analysis of samples using the Agilent 2100 bioanalyzer showed Agencourt RNAPrep isolated RNA had consistently higher RNA Integrity Number (RIN) scores than competitive technologies (Figure 3). As shown in Figure 3, Agencourt RNAPrep produces higher RIN scores and therefore higher quality RNA. For more information on RIN RNA quality scores refer to *Genomics and Proteomics* v.4; no 5, pp.14– 21.

Automation

The Agencourt RNAPrep kit is easily amenable to efficient automated extraction of total RNA from 96-well cultured cells. The Beckman Coulter Biomek® FX with 96 channel head configuration is capable of prepping four 96-well plates in approximately one hour and 43 minutes producing high quality DNA (Figure 4).

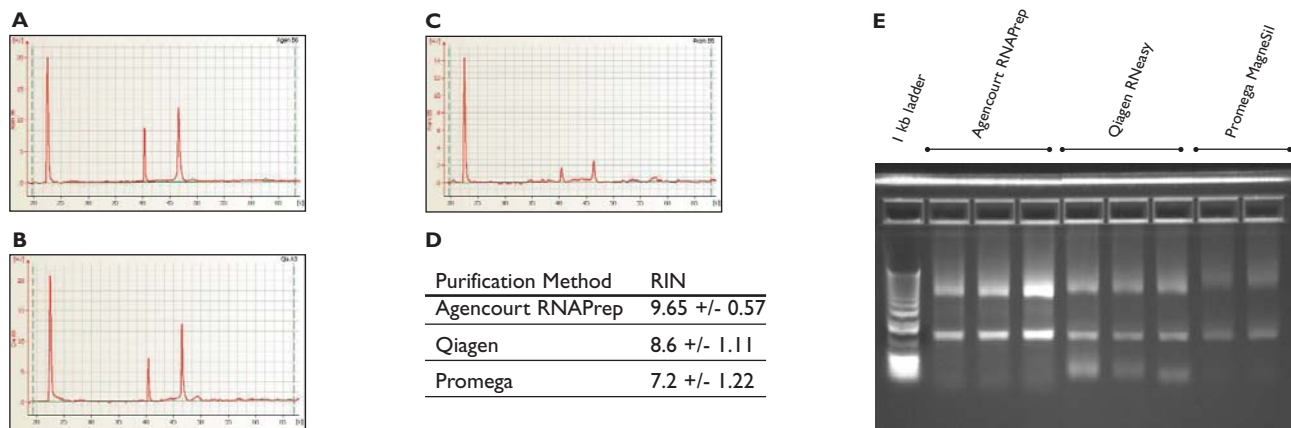


Figure 3. Total RNA was isolated from 1×10^5 293T cells using (A) Agencourt RNAPrep, (B) Qiagen's vacuum filtration kit, or (C) Promega's magnetic bead kit. The purified products were analyzed using the Agilent 2100 bioanalyzer. (D) Average RNA Integrity Number (RIN) as determined from Agilent 2100 bioanalyzer. (E) An equal percentage of eluted RNA from each kit was analyzed by agarose gel electrophoresis using a 1.2% E-gel (Invitrogen).

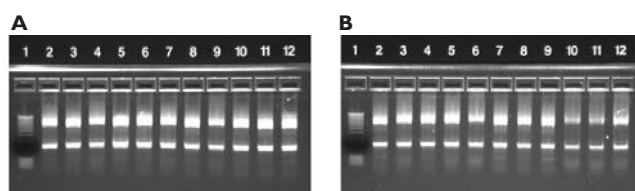


Figure 4. Total RNA was isolated from confluent 293T cells (A) or HeLa cells (B) in a 96-well plate format using an automated protocol on the Biomek FX. There were approximately 1×10^5 cells in each well. Randomly selected samples from each plate were analyzed on E-gels (Invitrogen).

Summary

Agencourt® RNAPrep™ is a simple and highly efficient method for isolating and purifying total RNA. Its superior performance delivers high quality RNA for use in microarray or real-time PCR gene expression experiments. With flexibility from single tube to fully automated 96-well plate formats, the SPRI magnetic bead technology enables efficient removal of contaminants without the need for filtration or centrifugation. Agencourt RNAPrep produces higher recovery, better quality, and more consistent results compared to other available RNA isolation and purification technologies.

Ordering Information

For product pricing, please visit our website at www.agencourt.com or contact your local sales representative.

Product	Format	Product #
Agencourt RNAPrep Tube-based Starter Kit	Tube	001226
Agencourt RNAPrep 96-well Starter Kit	96-well plate	001225
Agencourt RNAPrep Kit, Small**	96-well plate/tube	001224
Agencourt RNAPrep Kit, Large***	96-well plate/tube	001228
Related Products		Product #
Agencourt SPRIStand™ 6 Position Tube Magnet		001139
Agencourt SPRIPlate® 96R Magnet Plate		000219
Agencourt RNAClean™ Kit, 60 mL		000494

* The PCR process is covered by patents owned by Roche Molecular Systems, Inc., and F. Hoffman-La Roche, Ltd.

** A small kit contains enough reagent to run 384 reactions from 1×10^5 cells starting material.

*** A large kit contains enough reagent to run 960 reactions from 1×10^5 cells starting material.

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